

Dr. Keisha Melodi McSweeney

On Monday, August 21st, 2017 Dr. Keisha Melodi McSweeney successfully defended her dissertation, entitled “Microelectrode array modeling of genetic neurological disorders in the era of next generation sequencing,” to a panel of six accomplished and celebrated scientists at Duke University in Durham, North Carolina. She was awarded the highest academic degree, a Doctorate of Philosophy in Genetics and Genomics.

Dr. McSweeney completed her thesis research in the lab of pioneering human geneticist, Dr. David Goldstein. In his introduction of her dissertation, Dr. Goldstein remarked that her courage to undertake functional biology in neuroscience, in a genetics lab, shifted the direction of the research in the group from finding mutations that cause diseases, to working out how those mutations cause disease. Keisha Melodi's research now provides a framework for the evaluation of genetic variations that cause neurological disorders and has revealed new insights into the role of neuronal excitability in the development of epilepsy.

The daughter of Charles and Teresita McSweeney, Keisha Melodi, along with her twin sister Krystal McSweeney-Rosalez, MSW, LCSW, graduated from Belize Elementary School, Saint Catherine Academy, and St. John's College Junior College in Belize before migrating to the US in 2008 where they completed their undergraduate degrees at Loyola University Chicago. As Krystal completed her Master's degree in Social Work in 2011, Keisha Melodi began research in the Human Genetics department at the University of Michigan where she developed a deeper appreciation for the role of scientific research in combating debilitating human conditions. She later accepted an offer to pursue research and a Ph.D. in genetics at Duke University in 2012.

Since then, her work has made her the recipient of numerous scholastic awards and has taken her to Japan, Scotland, England and various locations in the US where she has presented her findings to the scientific community and to families of individuals with debilitating diseases. During her graduate research she published in leading



scientific journals in the USA, including Genome Research and Nature Communications. Keisha Melodi is now pursuing postdoctoral research at

the US Food and Drug Administration in Maryland where she hopes to make a broader impact on disease diagnosis and prevention through her research. She remains an active member of the scientific community by presenting at conferences and publishing research findings.

Along with her passion for science, Keisha Melodi is also passionate about mentoring students from minority or disadvantaged backgrounds. She has mentored more than ten students throughout her Ph.D. and postdoctoral fellowship and encourages others to pursue learning in all forms, despite age, experience, background, fortune, or misfortune. Keisha Melodi aspires to one day return to Belize to develop a research program that targets young scientists and provides new avenues for success in the biological sciences in Belize.

Outside of her research and mentorship, Keisha Melodi enjoys serving as a consultant for start-up companies in the life sciences, participating in the DukeDC Alumni Network and Women's Forum, and playing volleyball with the DC Intramural Network. Keisha Melodi serves as board member for the Belizean Canadian/American of the year award committee, has become an active member of Belize Diaspora in Washington DC and continues to volunteer at embassy events. Dr. McSweeney hopes to use science as a gateway to connect Belizeans and to continue to propel the nation forward.